Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Rich.d Kirwan Esq.r L.L.D. F.R.S. &c. &c.

PROCEEDINGS

OF THE

ROYAL IRISH ACADEMY.

VOL. IV.

DUBLIN:
PRINTED BY M. H. GILL,
PRINTER TO THE ACADEMY.
MDCCCL.

CONTENTS.

VOLUME IV.

1847–1850.

PAGE.

ADDRESS of the Academy to the Earl of Clarendon, Lord Lieutenant of Ireland. 1

Answer of the Earl of Clarendon to Address. 2

Letter from the Royal Commission for the Preservation of Antiquities, Copenhagen. 4

On the determination of Differences of Longitude, by Means of Shooting Stars. By E. J. Cooper, Esq. 6

An Account of some additional Applications of Quaternions to Surfaces of the Second Order. By Sir William R. Hamilton. . . 14

On the Sum of Eight Squares. By Professor Young. 19

Letter on the Exchange of an ancient English for an Irish Seal. By William Staunton, Esq. 20

Letter from M. Elie Wartman of Geneva. 21

Letter relating to an ancient Irish Bell, presented to the Academy by J. C. Deane, Esq. 24

On the Persian Cuneiform Character. By the Rev. C. W. Wall, (V. P.) D.D. 24

On Etruscan Coins, in the Possession of Mr. Cooke of Parsonstown and Mr. Charles Haliday of Dublin. By Sir William Betham. . 29

On the same. By the Rev. J. H. Todd, D.D. 33

On Hylurgus Piniperda. By Professor Allman. 34

Subscription for the Purchase of the Betham Collection of Irish MSS. commenced. 35

On a Cinerary Urn found near Bagnalstown. By W. R. Wilde, Esq. 35

Letter from Charles Haliday, Esq. to Sir William Betham on Etruscan Coins. 36

On a Meteor seen near Dublin. By George Yeates, Esq. 37

On the Applications of Quaternion. By Sir W. R. Hamilton. . . 38

PAGE.

On the total Intensity of the Earth's Magnetic Force in absolute Measure applicable to the high Magnetic Latitudes. By the Rev. H. Lloyd, D. D., President. 57

On a singular Implement discovered in an ancient Copper Mine in the County Cork. By Professor Allman. 64

Letter relating to Wood's Coinage. By Dr. William King, Archbishop of Dublin. Read by the Rev. J. H. Todd, D. D. . . . 66

On a General Method of deciphering Secret Alphabetic Writings, as applicable to the Irish Ogham. By the Rev. C. Graves, A. M. 70

Letter from Thomas L. Cooke, Esq., to Sir William Betham, on Etruscan Coins in his Possession. 74

On the Application of Quaternions to the Determination of the Distance of any recently discovered Comet or Planet from the Earth. By Sir William R. Hamilton. 75

On a Table Gas Lamp. By M. Donovan, Esq. 75, 91

On the Theory of Linear Differential Equations. By the Rev. Charles Graves, A. M. 88

Report of the Council, March 16, 1848. 92

On Tar, as a Preservative against the Potato Disease. By His Grace the Archbishop of Dublin. 119

On the present Condition of the Earl of Rosse's great Telescope. By the Rev. T. R. Robinson, D. D. 119

On the different Conditions necessary to insure a Steam Engine's working at full Pressure. By the Rev. R. V. Dixon. 128

On the Larynx, Trachea, and Œsophagus of the Elephant. By Professor Harrison. 132

On the comparative Advantages of smelting Lead Ore by the Blast-hearth and the Reverberatory Furnace. By M. Donovan, Esq. 136

On Mathematical Expressions for Hypothetical and Disjunctive Propositions. By the Rev. Charles Graves. 147

On ancient Graves found at Killucan. By Robert R. Cornwall, Esq. 149

On a compound Rainbow. By Stewart Blacker, Esq. 149

On a remarkable Aurora. By James Pim, Esq. 151

On the Construction of a new Form of the Galvanic Battery. By the Rev. Professor Callan, D. D. 152

On the Anatomy of the "Lachrymal Apparatus" in the Elephant. By Professor Harrison. 158

An Account of certain Antiquities presented to the Academy. By Maurice O'Connell, Esq. 166

On the new Planet Metis. By A. Graham, Esq. 167

On the same. By Sir William R. Hamilton. 169

On Improvements in the Construction of the Galvanometer. By M. Donovan, Esq. 169

On the same. By the Rev. H. Lloyd, D. D., President. 171

PAGE.

On the double Mode of Generation of an Ellipsoid. By Sir William R. Hamilton, LL.D. 173

On the Ogham Character. By the Rev. Charles Graves. . . . 173

On certain Questions connected with the Reduction of Magnetical and Meteorological Observations. By the Rev. H. Lloyd, D.D., President. 180

On a Silver Brooch, with an Inscription in the Ogham Character. By the Rev. Charles Graves. 183

On an Inscription in the ruined Church of Rathmore, County Meath. By J. Huband Smith, Esq. 184

On some Portions of a Skeleton, an Urn, and Fragment of another, found in the Townland of Kiltalown. By J. Lentaigne, Esq. M. D. 187

On the Equation of the central Surface of the second Order. By the Rev. Charles Graves. 188

Additional Theorems respecting certain Reciprocal Surfaces. By Sir William R. Hamilton, LL.D. 192

Address of the President, on presenting the Gold Medals to Sir William R. Hamilton,—to the Rev. Samuel Haughton,—to the Rev. Edward Hincks, D.D.,—and John O'Donovan, Esq. . . 193

On the dynamic Effect of a Turbine, as shown by the Application of Prony's Brake. By the Rev. T. R. Robinson, D. D. . . . 210

On the Corrections required in the Measurement of the Magnetic Declination. By the Rev. H. Lloyd, D. D., President. . . . 219

On Maps illustrative of the Value of Land in Ireland. By Sir Robert Kane. 230, 234

On the same. By Thomas Oldham, Esq. 232

On the Relation between the Temperature of Metallic Conductors and their Resistance to Electric Currents. By the Rev. T. R. Robinson, D.D. 235

On Herschel's Nebula, No. 44, as seen in Lord Rosse's Telescope. By the Rev. T. R. Robinson, D. D. 236

On the Contents of an ancient Bronze Vessel found in the King's County. By the Rev. T. R. Robinson, D. D. 237

On the Theory of the Planetary Disturbances. By the Rev. Brice Bronwin. 246

On some general Properties of the Hyperbola. By the Rev. William Roberts. 247

On a Collection of Antiquities presented by the King of Denmark and the Royal Society of Antiquities at Copenhagen. By the Rev. J. H. Todd, D.D. 250

On the same. By George Petrie, LL.D. 251

On the Inscriptions found on the ancient Pillar Stone at Newton, near Pitmachie, in Aberdeenshire. By George Petrie, LL.D. . 253

On the same. By the Rev. Charles Graves. 254

On Irish Manuscripts in the Possession of the Highland and Agricultural Society of Scotland. By the Rev. Charles Graves. . . 255

PAGE.

On the Application of the Calculus of Quaternions to Problems respecting the Construction of a Circle touching three given Circles on a Sphere. By Sir William H. Hamilton, LL.D. 255

On the Deflections of the Magnetic Needle, produced by the Contact of Metals with each other. By M. Donovan. 261, 273

On the same. By the Rev. H. Lloyd, D. D. 267

On the Laws of Propagation of Plane Waves in extended Media. By the Rev. Samuel Haughton. 267

On the Proceedings of a Commission issued by Cromwell in 1653 or 1654. By Sir William Betham. 271

An Account of the Discovery of Ogham Stones presented by Mr. Richard Hitchcock. 271

An Account of certain Stones presented by Thomas F. Bergin, Esq. By George Petrie, LL.D. 273

On the Form of Geodesic Lines through the Umbilic of an Ellipsoid. By A. S. Hart, LL.D. 274

On Feudal Land Tenures in Ireland. By Sir William Betham. . 275

On the Theory of Planetary Disturbance. By the Rev. Brice Bronwin. 275

On the maximum Amount of Resistance required to sustain Banks with sloping Tops and Faces. By J. Neville, Esq. 275

On Geodetic Lines in Surfaces of the second Order. By the Rev. Charles Graves. 283

On different Applications of a Formula of M. Liouville. By the Rev. William Roberts. 288

On the Atmospheric Wave which passed over Dublin in February, 1849. By the Rev. H. Lloyd, D. D., President. 291

On the Manufacture of Sulphuric Acid. By Edmund Davy, Esq. 297

On the same. By Robert Mallet, Esq. 299

On the Adjustment of the Chordæ Vocales by the oblique Arytenoid Muscles. By Croker King, M. D. 301

On Theorems relating to Surfaces, obtained by his Method of Quaternions. By Sir William R. Hamilton, LL.D. 306

Report of the Council, March 16, 1849. 309

On Sugar in the White of Eggs. By John Aldridge, M. D. . . 313

On the Preparation of Phosphorus. By M. Donovan, Esq. . . 316

On the Effects of Moisture as affecting the Barometric Measurement of Heights. By H. L. Renny, Esq. 318

On an Equation of the Ellipsoid. By Sir W. R. Hamilton, LL.D. 324

On the Inscription of certain Gauche Polygons in Surfaces of the second Degree. By Sir W. R. Hamilton, LL.D. 325

On the Nature of the Fructification of the Rhodospermatous Algæ. By William H. Harvey, M. D. 326

On the same. By G. J. Allman, M. D. 332

PAGE.

An Account of the late Professor Mac Cullagh's Lectures on the Rotation of a solid Body round a fixed Point. By the Rev. Samuel Haughton. 333

On the Influence of the Earth's Figure on the Distribution of Land and Water at its Surface. By Henry Henessy, Esq. 333

On the universal Vitality of Matter, and its Exaltation into Animal and Vegetable Life. By M. Donovan, Esq. 340, 350

On the Construction of the Ellipsoid by two sliding Spheres. By Sir W. R. Hamilton, LL.D. 341

On Coins found in the Three-Rock Mountain. By G. Petrie, LL.D. 344

Catalogue of Tradesmen's Tokens. By A. Smith, M. D. . . . 345

On a Test for Manganese in Inorganic and Organic Bodies. By Edmund Davy, Esq. 345

A general Theorem in the Calculus of Quaternions. By the Rev. Charles Graves. 347

On a Theorem respecting Ellipsoids, obtained by the Method of Quaternions. By Sir W. R. Hamilton, LL.D. 349

On the Manufacture of Iron in Ireland. By Sir Robert Kane. . 356

On the Ogham Character and Alphabet. Part II. By the Rev. Charles Graves. 356

On a Rubbing of an Inscription at Lennan, County Monaghan. By the Rev. Charles Graves. 368

On an ancient Earthenware Vessel, and certain Bronze Antiquities found in it, at Kilmuckridge, County Wexford. By the Rev. Wm. Armstrong. 369

On a Seal found in the River at Roscrea. By Sir William Betham. 370

On the Khorsabad Inscriptions. By the Rev. E. Hincks, D. D. . 372

On the Chemical History of Pollen of Plants. By William K. Sullivan, Esq. 374

On the Relation of the Variations of the Magnetic Elements (diurnal and annual) to the contemporaneous Variations of Temperature. By the Rev. H. Lloyd, D. D., President. 379

On some Results obtained by the Quaternion Analysis, respecting the Inscription of Gauche Polygons in Surfaces of the second Order. By Sir W. R. Hamilton, LL.D. 380

On an Inscription on a Gravestone found in the ancient Church of Keel, East Carbery, County Cork. By Richard Caulfield, Esq. 387

On certain Antiquities, presented to the Academy, found in the Parish of Kiltale, County Meath. By J. S. Searanke, Esq. . . 388

On Gold Rings found at Strokestown. By George Petrie, LL.D., and Sir William Betham. 389

On the same. By R. R. Madden, Esq. 389

Address to the Queen. 391

Address to Prince Albert. 392

Answer of Prince Albert. 393

PAGE.

On certain Antiquities presented to the Academy, found near a Cavern at Cushendall, in the County of Antrim. By Colonel H. D. Jones, C. E. 394

On the same. By J. H. Smith, Esq. 395

On the Meteor of the 2nd of November. By Sir William Betham. 396

On the same. By George A. Hamilton, Esq. M. P. 397

On the same. By Robert Mallett, Esq. 397

On the same. By Captain T. A. Larcom, R. E. 407

On the same. By the Rev. Samuel Haughton. 407

On a rudely cut Stone found at Ardee. By John T. Rowland, Esq. 404

On an inscribed Stone found at Navan. By Sir W. Betham. . 407, 421

On a MS. found on the Person of the Duke of Monmouth. By John Anster, LL.D.. 411

On the Skulls of Bears found in Ireland. By Robert Ball, LL.D. 416

On the Fall of Rain during a Period of four Years, and on the Levels of the Shannon at Athlone, for the same time. By Colonel H. D. Jones, C. E. 420

On Bronze Antiquities found at Dowris, in the King's County. By Thomas L. Cooke, Esq. 423

On an ancient wooden Sword, found at Ballykillmurry, County Wicklow. By James Westby, Esq. 440

An Account of the Discovery of a Chamber in Killeen Fort, two Miles north of Cork. By Richard Caulfield, Esq. 441

On certain Passages in the Life of Edmund Spenser. By Rev. N. J. Halpin. 445

On the Motion of a Molecular System. By the Rev. J. H. Jellett. 452

On a new Method of deducing Fresnel's Laws of Wave Propagation from a Mechanical Theory. By the Rev. Samuel Haughton. 455

On the Function peculjar to a System of attracting and repelling Molecules. By the Rev. Samuel Haughton. 460

On the Analysis of the gold-coloured Bronze Antiquities found at Dowris, King's County. By M. Donovan, Esq. 463

On the Natural History of the Genus Alcyonella. By G. J. Allman, M. D. 470

Report of Council relating to the Establishment of Meteorological and Tidal Observations in Ireland. 478, 511

A Biographical Memoir of the late Richard Kirwan, LL.D. By M. Donovan, Esq. (See Appendix VIII.) 480

An Eulogium on the late Richard Kirwan, Esq., LL.D. By Dr. Pickells of Cork. 481

On an ancient Seal found near Beverly in Yorkshire. By Sir William Betham. 484

On the Progress of Epidemics. By Henry Kennedy, M. D. . . 486

On a Method for preventing the Waste of Water by Evaporation from Ponds and Tanks in hot Climates. By R. Graves, M. D. 486

PAGE.
Report of the Council, March 16, 1850. 492
On an ancient MS. said to have belonged to the Abbey of Bonamargy. By Joseph H. Smith, Esq. 499
On the Identity of Malic and Sorbic Acids. By M. Donovan, Esq. 502
Notes made by himself and Mr. Charles M'Donnell respecting the Existence of MSS. in Ireland in the early Part of the nineteenth Century. By the Rev. Charles Graves. 511
On the Storm which visited Dublin on the 18th of April, 1850. By the Rev. Humphrey Lloyd, D. D. 515
On the same. By William Hogan, Esq. 520
On the Position in Society of Physicians amongst the Greeks and Romans. By M. Donovan, Esq. 522
A Letter accompanying a wooden Implement presented to the Academy. By Charles Leslie, Esq. 536
On a MS. in the British Museum, containing a Notice of an ancient Building pulled down at Raphoe. By Sir William Betham. . . 536
On an ancient piece of Sculpture representing the Crucifixion, presented to the Museum. By the Rev. J. H. Todd, D. D. . . . 536
On a new Application of Thermometrical Observations for the Determination of local Climates. By Jonathan Osborne, M. D. . 537
On the same. By the Rev. Humphrey Lloyd, D. D., President. . 541
On the same. By James Apjohn, M. D. 541
On gauche Polygons in Central Surfaces of the second Order. By Sir W. R. Hamilton, LL. D. 541
On two Irish MSS., the Property of the Royal Burgundian Library at Brussels, lent to the Academy. By the Rev. J. H. Todd, D. D. 557
On the MS. called the Macariæ Excidium, presented to the Academy by the late Professor Mac Cullagh. By the Rev. J. H. Todd. . 565
A Letter on presenting some Antiquities to the Academy. By G. W. Hemans, Esq. 565
On a new Anemometer. By the Rev. T. R. Robinson, D. D. . . 566
On the Cross of Cong. By George Petrie, LL.D. 572
On a Sikh MS. presented to the Academy. By Joseph Burke. . . 586
On a Friction Sledge invented by Wilfred Haughton, Esq. By the Rev. Samuel Haughton. 586
On the Want of a Cheap Method for protecting Property in Inventions. By W. N. Hancock, Esq. 586
On a Proposal made in 1617 to apply Magnetism as a Means for communicating Intelligence. By R. R. Madden, Esq. 587

Objects Exhibited,—pp. 35, 64, 75, 183, 184, 210, 368, 370, 371, 389, 423, 440, 484, 486, 536.

Resolutions Passed,—pp. 3, 4, 35, 166, 235, 252, 253, 260, 273, 291, 480, 564, 585.

ELECTIONS OF COUNCIL,—pp. 118, 312, 498, 499.

ELECTIONS OF MEMBERS,—pp. 4, 34, 70, 128, 261, 275, 316, 344, 394, 416, 440, 478, 499, 536.

ELECTIONS OF HONORARY MEMBERS,—pp. 235, 391, 407.

REPORTS OF THE COUNCIL,—pp. 92, 309, 478, 492, 511.

DONATIONS OF ANTIQUITIES, &c.,*—pp. 24, 35, 165, 166, 187, 210, 219, 250, 253, 254, 272, 326, 369, 371, 387, 388, 389, 394, 404, 505, 511, 536, 565, 586.

APPENDICES.

PAGE.

Meteorological Journal, from 1st January, 1847, to 31st December, 1847. By George Yeates, Esq., M. R. I. A. No. I. . . i

Accounts of the Royal Irish Academy, for audit, from 1st April, 1847, to 31st March, 1848. No. II. vii

Meteorological Journal, from 1st January, 1847, and ending 31st December, 1848. By George Yeates, Esq., M. R. I. A. No. III. xxi

Catalogue of Tradesmen's Tokens. By Aquilla Smith, M. D. No. IV. xxvii

Accounts of the Royal Irish Academy, for audit, from 1st April, 1848, to 31st March, 1849. No. V. lv

Daily Observations of the Weather, and on the Rise and Fall of the Shannon, during the Years 1846, 1847, 1848; made at Athlone: By John Long, Esq. No. VI. lxix

Meteorological Journal, from 1st January, 1849, to 31st December, 1849. By George Yeates, Esq. No. VII. lxxv

Biographical Account of the late Richard Kirwan, Esq. By M. Donovan, Esq., M. R. I. A. No. VIII. lxxxi

Account of the Royal Irish Academy, for audit, from 1st April, 1849, to 31st March, 1850. No. IX. cxix

---

* A corrected list of all donations, to the Library and Museum, from November, 1847, will be published with last part of the Transactions, vol. xxii.

INDEX

OF CONTRIBUTORS' NAMES TO PROCEEDINGS.

VOLUME IV.

Aldridge, 313.—Allman, 34, 64, 332, 470.—Anster, 411.—Apjohn, 541.—Armstrong, 369.

Ball, 416.—Betham, 29, 271, 275, 370, 389, 396, 407, 421, 484, 536.—Blacker, 149.—Bronwin, 246, 275.—Burke, 586.

Callan, 152.—Caulfield, 387, 441.—Cooke, 74, 423.—Cooper, 6.—Cornwall, 149.

Davy, 297, 345.—Deane, 24.—Dixon, 128.—Donovan, 75, 91, 136, 169, 261, 273, 316, 340, 350, 463, 480, 502, 522.—Dublin, Archbishop of, 119.

Graham, 167.—Graves, Rev. C., 70, 88, 147, 173, 183, 188, 254, 255, 283, 347, 356, 368, 511.—Graves, R., 486.

Halliday, 36.—Halpin, 445.—Hamilton, Sir W. R., 14, 38, 75, 169, 173, 192, 255, 306, 324, 325, 341, 349, 380, 541.—Hamilton, G. A., 397.—Hancock, 586.—Harrison, 132, 158.—Hart, 274.—Harvey, 326.—Haughton, 267, 333, 407, 455, 460, 586.—Hemans, 565.—Hennessy, 333.—Hincks, 372.—Hitchcock, 271.—Hogan, 520.

Jellett, 452.—Jones, 394, 420.

Kane, 230, 234, 356.—Kennedy, 486.—King, 301.

Larcom, 407.—Lentaigne, 187.—Leslie, 536.—Lloyd, 57, 171, 180, 219, 267, 291, 379, 515, 541.

Madden, 389, 587.—Mallett, 299, 397.

Neville, 275.

Oldham, 232.—O'Connell, 166.—Osborne, 537.

Petrie, 251, 253, 273, 344, 572.—Pickells, 481.—Pim, 151.

Renny, 318.—Roberts, 247, 288.—Robinson, 119, 210, 235, 236, 237, 566.—Rowland, 404.

Searanke, 388.—Smith (J. H.), 184, 395, 499.—Smith (Aquilla), 345.—Staunton, 20.—Sullivan, 374.

Todd, 33, 66, 250, 536, 557, 565.

Wall, 24.—Wartman, 21.—Westby, 440.—Wilde, 35.

Yeates, 37.—Young, 19.